

EXHIBIT 448 - A

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

IN RE NATIONAL	:	MDL No. 2804
PRESCRIPTION OPIATE	:	CASE NO. 17-MD-2804
LITIGATION	:	(DAP)
	:	

EXPERT REPORT OF CRAIG J. MCCANN, PH.D., CFA
March 25, 2019

A. State Hydrocodone and Oxycodone MME Per Capita,
1997-2017

CONFIDENTIAL – SUBJECT TO PROTECTIVE ORDER

Opioid Total Dosage Units by Company in Cuyahoga County, OH

County Population		1,312,816	1,301,540	1,291,479	1,285,082	1,278,200	1,270,461	1,266,210	1,264,622	1,262,451	
Company Name	Market Share	Total Dosage Units	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cardinal Health	23.07%	100,530,754	11,456,136	12,083,744	12,735,624	13,500,846	11,629,054	10,459,812	9,693,602	10,156,709	8,815,227
AmerisourceBergen Drug											
Walgreen Co	17.02%	74,159,470	7,797,545	8,390,005	9,271,285	10,154,030	10,892,180	11,763,855	10,249,335	4,741,915	899,320
McKesson Corporation	14.32%	62,375,571	4,554,354	5,775,078	6,936,936	7,335,571	6,098,059	7,764,769	8,001,665	7,675,533	8,233,606
CVS											
Discount Drug Mart	2.75%	11,981,350	1,059,900	1,237,900	1,273,000	1,426,420	1,445,800	1,436,350	1,418,750	1,384,620	1,298,610
HBC Service Company	2.53%	11,008,220	0	0	0	345,720	2,187,700	2,554,850	2,384,350	2,110,400	1,425,200
Rite Aid	2.32%	10,119,510	1,646,000	1,962,100	1,894,200	1,264,220	1,162,350	718,190	590,150	565,500	316,800
Wal-Mart	2.17%	9,438,765	636,615	822,675	1,031,505	1,207,630	1,286,300	1,232,700	1,109,690	881,005	1,230,645
Eckerd Corporation	1.17%	5,077,810	0	0	0	553,820	687,320	1,119,820	1,114,130	1,032,080	570,640
Anda, Inc	0.81%	3,511,080	174,550	173,585	236,145	276,540	87,295	268,460	284,630	721,160	1,288,715
Prescription Supply Inc	0.68%	2,957,844	617,806	566,349	548,848	606,151	85,565	138,754	175,439	98,982	119,950
H. D. Smith											
The Harvard Drug Group	0.14%	599,885	126,800	147,800	119,200	130,675	16,405	34,605	17,600	6,800	0
KeySource Medical	0.11%	498,415	7,000	27,890	29,300	231,665	152,440	50,120	0	0	0
Amneal Pharmaceuticals LLC	0.09%	390,000	0	0	0	0	0	0	0	0	390,000
Safecor Health, LLC	0.09%	382,201	0	0	0	0	0	99	28,691	290,074	63,337
River City Pharma	0.08%	366,805	1,000	0	2,500	94,700	64,805	145,100	51,700	2,800	4,200
American Sales Company	0.06%	240,200	240,200	0	0	0	0	0	0	0	0
Henry Schein Inc	0.05%	211,660	36,245	27,160	28,700	23,430	14,170	30,425	22,400	16,240	12,890
Smith Drug Company	0.04%	169,002	0	2,000	10,300	22,520	33,502	31,600	25,205	27,535	16,340
Dispensing Solutions	0.04%	164,990	0	0	0	19,825	32,790	47,325	40,260	24,790	0
Miami-Luken	0.02%	72,985	71,185	1,600	100	100	0	0	0	0	0
Pharmacy Service Ctr Distr	0.02%	71,235	16,605	13,700	13,815	13,815	11,900	1,400	0	0	0
Quest Pharmaceuticals Inc	0.02%	68,740	0	0	4,900	15,700	4,520	10,000	30,115	3,505	0
Darby Dental Supply, LLC	0.02%	68,500	47,900	6,000	8,100	2,400	2,000	1,000	200	500	400
DRx Pharmaceutical Consultants, Ir	0.01%	62,966	20,409	17,382	16,035	9,140	0	0	0	0	0
Value Drug Co	0.01%	47,373	0	0	0	0	0	0	0	0	47,373
Top Rx, Inc.	0.01%	42,930	2,000	2,500	5,200	8,030	2,000	10,700	10,500	1,000	1,000
Rebel Distributors Corp	0.01%	34,585	7,630	3,200	8,345	5,230	4,905	3,495	1,780	0	0
Moore Medical LLC	0.01%	34,024	6,400	3,600	0	6,200	5,500	5,700	3,224	2,000	1,400
PSS World Medical Inc	0.01%	32,240	5,725	6,910	6,205	4,900	4,200	3,000	1,300	0	0
PD-Rx Pharmaceuticals Inc	0.01%	30,560	0	0	0	0	0	0	0	3,200	27,360
General Injectables & Vaccines,Inc	0.01%	29,500	6,400	7,300	8,500	7,300	0	0	0	0	0
A F Hauser, Inc	0.01%	25,500	3,600	6,800	7,200	100	0	100	2,000	3,200	2,500
Capital Wholesale Drug & Co	0.00%	21,400	0	1,000	3,000	500	0	0	0	2,000	14,900
Professional Veterinary	0.00%	16,900	700	3,400	6,000	5,100	1,700	0	0	0	0
MWI Veterinary Supply	0.00%	16,510	0	100	100	1,400	2,380	3,730	3,790	2,645	2,365
Columbus Serum Co	0.00%	15,800	8,100	6,000	0	1,600	100	0	0	0	0
Midwest Veterinary Supply Inc	0.00%	15,510	2,000	1,400	0	0	500	4,045	2,565	2,200	2,800

CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

Opioid Total Dosage Units by Company in Summit County, OH

Company Name	County Population		544,660	544,275	543,116	542,135	541,648	541,293	540,716	541,601	542,095
	Market Share	Total Dosage Units	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cardinal Health	21.46%	56,478,170	5,230,466	5,797,309	6,482,471	7,773,419	6,965,901	5,492,320	5,388,940	6,125,719	7,221,625
McKesson Corporation	21.44%	56,430,209	3,408,414	4,401,775	5,855,183	6,201,152	4,880,650	6,108,391	6,541,002	9,144,992	9,888,650
AmericaSourceBergen Drug											
Walgreen Co	13.70%	36,069,760	3,438,905	3,895,230	4,404,970	5,141,710	5,561,665	5,708,145	4,991,405	2,424,840	502,890
CVS											
HBC Service Company	3.54%	9,316,960	0	0	0	264,380	1,745,420	2,091,450	2,076,320	1,863,890	1,275,500
Rite Aid	3.22%	8,485,870	1,293,600	1,510,400	1,528,840	911,180	25,400	1,004,010	917,840	842,110	452,490
Wal-Mart	2.05%	5,391,170	474,320	588,435	659,675	694,805	677,185	652,785	547,405	480,620	615,940
Discount Drug Mart	1.31%	3,441,010	302,700	360,500	373,230	419,930	417,260	407,600	382,270	382,300	395,220
Miami-Luken	1.08%	2,848,475	177,775	226,170	248,570	315,035	400,755	360,450	407,740	341,310	370,670
Eckerd Corporation	0.90%	2,372,920	0	0	0	408,900	1,271,010	213,970	176,740	148,230	154,070
Anda, Inc	0.67%	1,758,265	589,335	495,515	46,000	94,140	59,115	143,410	206,450	86,800	37,500
Anbura Pharmaceutical	0.08%	209,960	59,000	1,500	11,960	9,100	8,770	18,910	16,260	48,000	36,460
The Harvard Drug Group	0.05%	131,600	100	24,100	28,680	68,620	4,600	700	4,600	200	0
River City Pharma	0.04%	94,990	0	1,000	0	23,400	500	7,300	6,500	24,900	31,390
American Sales Company	0.03%	87,600	87,600	0	0	0	0	0	0	0	0
Henry Schein Inc	0.03%	81,170	16,000	18,000	13,700	9,700	5,355	4,255	4,795	4,945	4,420
H. D. Smith											
PD-Rx Pharmaceuticals Inc	0.02%	55,304	11,990	16,309	20,380	6,400	0	0	0	225	0
Associated Pharmacies Inc	0.01%	37,600	0	0	0	0	0	0	0	19,900	17,700
Almac Clinical Services, Inc.	0.01%	25,390	1,080	0	0	0	3,740	8,020	9,500	2,310	740
Pharmacy Service Ctr Distr	0.01%	21,205	2,305	3,300	1,400	1,100	2,800	3,200	3,000	2,800	1,300
Prescription Supply Inc	0.01%	19,300	400	0	0	10,000	1,000	300	2,300	4,700	600
DRx Pharmaceutical Consultants, Inc.	0.01%	18,134	9,622	4,864	3,120	528	0	0	0	0	0
KeySource Medical	0.01%	16,490	0	0	1,880	5,275	8,320	1,015	0	0	0
Diamond Pharmacy Services	0.01%	14,610	0	0	2,190	5,220	2,430	1,680	1,590	870	630
Independent Pharmacy Cooperative	0.01%	13,910	0	0	0	0	0	0	0	0	13,910
Omnicare Distribution Center LLC	0.01%	13,600	600	100	1,400	1,200	700	2,800	3,100	2,600	1,100
MWI Veterinary Supply	0.00%	11,130	1,400	1,100	0	500	1,320	2,205	2,935	910	760
Darby Dental Supply, LLC	0.00%	8,800	1,300	1,200	600	1,500	1,100	1,000	700	800	600
Rochester Drug Co-Operative Inc	0.00%	8,235	100	120	965	5,050	0	2,000	0	0	0
Columbus Serum Co	0.00%	7,100	2,800	4,000	0	200	100	0	0	0	0
Moore Medical LLC	0.00%	6,700	300	200	100	1,100	1,300	1,100	1,100	1,000	500
Amatheon Inc	0.00%	5,780	0	0	225	2,070	870	505	635	645	830
Patterson Logistics Services	0.00%	5,435	0	0	0	0	300	1,200	700	1,715	1,520
Fisher Clinical Services Inc	0.00%	4,624	3,360	120	0	1,144	0	0	0	0	0
Dispensing Solutions	0.00%	4,440	0	0	1,080	648	1,200	1,056	456	0	0
JOM Pharmaceutical Services, Inc.	0.00%	3,930	0	0	0	0	3,930	0	0	0	0
Palmetto State Pharma.	0.00%	3,500	0	3,500	0	0	0	0	0	0	0
Penn Veterinary Supply	0.00%	3,400	700	200	100	600	100	0	0	600	1,100
PSS World Medical Inc	0.00%	3,315	435	1,505	220	545	390	110	110	0	0
Capital Wholesale Drug & Co	0.00%	2,500	0	0	0	0	0	0	2,500	0	0
Expert-Med	0.00%	2,500	500	2,000	0	0	0	0	0	0	0